STATE FOREST LAND
ENVIRONMENTAL CHECKLIST

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decided whether an EIS is required.

Instructions for Applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can. *Questions in italics are supplemental to Ecology's standard environmental checklist. They have been added by the DNR to assist in the review of state forest land proposals. Adjacency and landscape/ watershed-administrative-unit (WAU) maps for this proposal are available on the DNR internet website at http://www.dnr.wa.gov under "SEPA Center." These maps may also be reviewed at the DNR regional office responsible for the proposal. This checklist is to be used for SEPA evaluation of state forest land activities.*

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later. *All of the questions are intended to address the complete proposal as described by your response to question A-11. The proposal acres in question A-11 may cover a larger area than the forest practice application acres, or the actual timber sale acres.*

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of checklist for nonproject proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NON PROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer" and "affected geographic area," respectively.

A. BACKGROUND

1. Name of proposed project, if applicable:

   Timber Sale Name: **Old School** *Agreement #:* **30-084377**

2. Name of applicant: **Washington State Department of Natural Resources**

3. Address and phone number of applicant and contact person:

   Pacific Cascade Region
   601 Bond Road
   PO Box 280
   Castle Rock, WA 98611-0280
   Phone: (360) 577-2025
   Contact Person: Robert W. Johnson

4. Date checklist prepared: **4/2/09**

5. Agency requesting checklist: **Washington State Department of Natural Resources**

6. Proposed timing or schedule (including phasing, if applicable):

   a. *Auction Date:* **11/19/09**
   b. *Planned contract end date (but may be extended):* **12/31/11**
   c. *Phasing:* **N/A**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   Timber Sale
   a. *Site preparation:*

   Pile and burn slash as needed. Aerial herbicide applications targeting vine maple and red alder may be done to minimize competition with conifer species on both units.

   b. *Regeneration Method:*

   Hand plant with native conifer species.

   c. *Vegetation Management:*

   Vegetation management needs will be assessed from plantation ages three to eight.
   Vegetation control activities will occur as needed.

d. *Thinning:*

Pre-commercial thinning needs will be assessed at approximately 15 years of age for the plantations. Commercial thinning potential will be assessed at approximately 25 years.

Roads: **Roads remaining at the termination of the sale will be used for future forest management activities. Road maintenance and periodic ditch and culvert cleanout will occur as necessary. All new construction will remain following the sale.**

Rock Pits and/or Sale: **Upper Mill Ridge Quarry, Mullinex Rock Pit, B&E Rock Pit**

Other: **Landing slash piles may be burned following harvest activities. Firewood salvage may occur after harvest activities.**

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

☒*303 (d) – listed water body in WAU:* ☐*temp* ☐*sediment* ☒*completed TMDL (total maximum daily load):* **Approximately 3 miles downstream a segment of Elk Creek is listed as a Category 5 Water due to dissolved oxygen. (Water Quality Assessment for Washington 2008)**
☐*Landscape plan:*
☐*Watershed analysis:*
☐Interdisciplinary *team (ID Team) report:*
☒*Road design plan:* **Available at Pacific Cascade Region office.**
☐*Wildlife report:*
☐*Geotechnical report:*
☐*Other specialist report(s):*
☐*Memorandum of understanding (sportsmen's groups, neighborhood associations, tribes, etc.):*
☒*Rock pit plan:* **B&E Pit development plan, Upper Mill Ridge Quarry development plan**
☒*Other:* **State Soil Survey; Final Habitat Conservation Plan (September 1997), Forest Practice Rules, Policy for Sustainable Forest Implementation (June 2006), Special concerns report (P&T), Riparian Forest Restoration Strategy.**

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. **None known**

10. List any government approvals or permits that will be needed for your proposal, if known.

☒*HPA #* **103081-1** ☒*Burning permit* ☐*Shoreline permit* ☒*Incidentaltakepermit***1168andPRT8125121** ☒*FPA #* **2919789**

11. Give brief, complete description of our proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include specific information on project description.)

a. *Complete proposal description:*

Old School is a 126-acre variable retention harvest consisting of two regeneration units located in the Elk Creek WAU. 173 acres were initially proposed minus RMZs. A minimum of eight leave trees per acre will remain as scattered and clumped throughout the proposal area. 1,841 feet of optional new road construction, 25,915 feet of pre-haul maintenance is planned. The proposal area contains both steep and gentle topography that will be ground and cable yarded.

Sale of Timber

Estimated total volume removed will be 6,000 MBF.

Unit	Proposal Acres	RMZ/WMZ Acres	Wildlife Reserve Acres	Existing Road Acres	Sale Acres	Leave Tree Clump Acres	Internal Road R/W Acres	Harvest Acres
name	*gross*			*within unit*	**8=leave trees*	*clumped acres*	*for thins*	*net*
1	88	13		2	73	2		71
2	85	27	1	0	57	2		55
Totals	173	40	1	2	130	4		126

b. *Timber stand description pre-harvest (include major timber species and origin date), type of harvest, overall unit objectives.*

Stand Description

Unit 1 (73 acres): The western section of the stand was established in 1932 and consists primarily of a Douglas-fir/western hemlock overstory, with a portion of the midslope growing in pure red alder. The eastern section of the stand originated in 1946 and has a Douglas-fir/western hemlock overstory. There are portions of the unit with a hemlock mid/understory growing. The forest floor consists of sword fern, Oregon grape and salal. Portions in the center and east sections of the unit have signs of a fire event in the past and have a very sparse forest floor cover.

Unit 2 (57 acres): The western section of the stand was established in 1934 and consists of a Douglas-fir/western hemlock overstory with western redcedar scattered throughout. The hemlock and cedar are growing in the mid and understory on some portions of the western section. Sword fern and salal make up the forest floor. The eastern section of the stand was established in 1939 and consists of a Douglas-fir/western hemlock over story. This portion of the unit received a late-rotational selective harvest of the overstory within the last 6-7 years. With the canopy opened, the forest floor is dominated by western hemlock saplings. Sword fern and salal are growing on the forest floor where the hemlock is absent.

Type of Harvest
Variable Retention Harvest (Units 1 & 2). Approximately 6,000 MBF of timber will be removed.

Overall Unit Objective

1) **The primary objective of this timber sale is to provide financial benefit to the trust beneficiaries and regenerate a new stand of timber. The area will be managed for continued upland forest resource management.**
2) **Comply with internal procedures derived from the Forest Practices rules, Policy for Sustainable Forests, the Riparian Forest Restoration Strategy, and the Habitat Conservation Plan.**
3) **Maintain water quality and fish habitat, retain legacy trees and minimize impacts to soils.**

c. *Road activity summary. See also forest practice application (FPA) for maps and more details.*

Type of Activity	How Many	Length (feet) (Estimated)	Acres (Estimated)	Fish Barrier Removals (#)
Construction		1841	0.8	
Reconstruction				
Abandonment				
Bridge Install/Replace				
Culvert Install/Replace (fish)				
Culvert Install/Replace (no fish)				

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. *(See timber sale map available at DNR region office, and/or color landscape/WAU map on the DNR website http://www.dnr.wa.gov under "SEPA Center.")*

a. Legal description: **T13N R06W S12**
T13N R06W S13
T13N R06W S14
T13N R06W S24
T13N R06W S21

b. *Distance and direction from nearest town (include road names):*

Approximately 5 miles west of Doty. From Doty, head west on Elk Creek Road for 2.3 miles to the N-1000 road. Unit 1 is located approximately 3.5 miles up the N-1000 road above the Mullinex rock pit on the 8190 road. Unit 2 is located at the junction of the 8100 & 8120 roads. Follow Elk Creek Road 1.3 miles past the N-1000 junction to the end of the blacktop and continue on the 8000 road for another 1.7 miles to the 8100 road. The 8120 road is about 0.5 miles up the 8100.

c. *Identify the watershed administrative unit (WAU), the WAU Sub-basin(s), and acres. (See also landscape/WAU map on DNR website http://www.dnr.wa.gov under " SEPA Center.")*

WAU Name	WAU Acres	Proposal Acres	Sub-basins
Elk Creek	**37,434**	**25**	**11**
		141	**13**
		7	**15**
Total		**173**	

Unit two has approximately 7 acres in sub-basin 15, 25 acres in sub-basin 11 and the remainder in sub-basin 13. All of unit 1 is within sub-basin 13.

13. *Discuss any known future activities not associated with this proposal that may result in a cumulative change in the environment when combined with the past and current proposal(s). (See digital ortho-photos for WAU and adjacency maps on DNR website http://www.dnr.wa.gov under "SEPA Center" for a broader landscape perspective.)*

The following tables are estimated summaries of past and future activity on DNR-managed land and privately managed land in the WAU (information is based off of Forest Practices applications that have been approved in the last seven years compiled by the Department's GIS database). No attempt was made to predict future timber harvest on private ownerships within the WAU. The source of this information only provided the acreage on the WAU level. WAU reports were requested and generated August 26, 2008.

Elk Creek WAU	WAU ACRES	ACRES OF EVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	ACRES OF UNEVEN-AGED HARVEST WITHIN THE LAST SEVEN YEARS	PROPOSED EVEN-AGED HARVEST IN THE FUTURE	PROPOSED UNEVEN-AGED HARVEST IN THE FUTURE
DNR MANAGED LAND	**12,050**	**793**	**0**	**1,663**	**5**
PRIVATE OWNERSHIP	**25,384**	**2,958**	**0**	**Unknown**	**Unknown**
TOTAL	**37,434**	**3,751**	**0**	**1,663**	**0**

A segment of Elk Creek downstream of this proposal is listed as a Category 5 water, based upon dissolved oxygen levels. The Riparian Management Zones incorporated into this proposal will provide adequate shade protection, and ensure that this proposal will not negatively affect the dissolved oxygen levels in Elk Creek.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site (check one):

☐Flat, ☐Rolling, ☒Hilly, ☐Steep Slopes, ☐Mountainous, ☐Other:

1) General description of the WAU or sub-basin(s) (landforms, climate, elevations, and forest vegetation zone).

The Elk Creek WAU contains hilly topography with steep slopes. Elevations range from 283 feet to 2,416 feet. Rainfall averages 70 inches per year. The forest vegetation zone is western hemlock. The major timber type is Douglas-fir with lesser components of grand fir and western redcedar in the uplands as well as red alder in the draws.

2) Identify any difference between the proposal location and the general description of the WAU or sub-basin(s).

The proposal fits the general WAU descriptions above.

b. What is the steepest slope on the site (approximate percent slope)? **65%**

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland. *Note: The following table is created from state soil survey data. It is a roll-up of general soils information for the soils found in the entire sale area. It is only one of several site assessment tools used in conjunction with actual site inspections for slope stability concerns or erosion potential. It can help indicate potential for shallow, rapid soil movement, but often does not represent deeper soil sub-strata. The actual soils conditions in the sale area may vary considerably based on land-form shapes, presence of erosive situations, and other factors. The state soil survey is a compilation of various surveys with different standards.*

State Soil Survey #	Soil Texture	% Slope	Acres	Mass Wasting Potential	Erosion Potential
1936	Silt Loam	8-30	32	Low	Medium
1934	Silt Loam	1-8	24	NA	Medium
0577	Silt Loam	8-30	37	NA	Medium
0664	Silt Loam	30-65	17	Medium	Medium
3489	Very Cobbly Loam	5-30	20	Low	Low

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

1) Surface indications:

There are minor surface indications of unstable slopes within and adjacent to Units 1 and 2. These include over-steepened stream banks with exposed mineral soils, and steep slopes between 60-65%. None of these steep slopes occur in unit 2, and those that occur in unit 1 are primarily within RMZs.

2) Is there evidence of natural slope failures in the sub-basin(s)?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*

There is evidence of slope failures within the sub-basin. These are generally associated with slopes greater than 60% within hollows that extend up to the mid-slope and occur most often within the Riparian Management Zones, lower slopes of the main draws, and headwalls at the top of steep draws. One slide which occurred above the 8123 road adjacent to Unit 2 fits this description. This particular failure was associated with the peak rainfall amounts in the fall of 2006 that the sub-basin received.

3) Are there slope failures in the sub-basin(s) associated with timber harvest activities or roads?
☐*No* ☒*Yes, type of failures (shallow vs. deep-seated) and failure site characteristics:*
Associated management activity:

The slide mentioned above in B.1.d.2 occurred above a road along the north boundary of unit 2. This was a shallow slide associated with the peak rainfall amounts in 2006.

4) Is the proposed site similar to sites where slope failures have occurred previously in the sub-basin(s)?
☐*No* ☒*Yes, describe similarities between the conditions and activities on these sites:*

The proposal has some slopes that range between 60-65%, which is similar to those that have failed in other portions of the sub-basin. These slopes will be cable logged and ground disturbance will be minimal.

5) Describe any slope stability protection measures (including sale boundary location, road, and harvest system decisions) incorporated into this proposal.

Road construction will occur primarily on ridgetops. Cross drain culverts and ditchouts will be utilized to minimize the potential for mass wasting and slope failure. Ground based harvest systems will not be allowed on slopes over 40%. Cable settings will require lead end suspension at minimum and full suspension when yarding over type 5 streams. A map provided by the state lands geologist identified potential unstable locations on the proposal area which were field checked during recon work. No unstable slopes were found at these locations during the field reconnaissance.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.
Approx. acreage new roads: **0.8** *Approx. acreage new landings:* **1** *Fill source:* **Native material**

Grading will occur for new road construction. Filling will occur over new culvert installations during road construction. Material will be native soil from the new road construction location. Ballast and surface rock will come from the Upper Mill Ridge Quarry, the Mullinex Pit, and the B&E Pit, or from a commercial source..

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, minimal erosion may occur as the result of road construction, road use and logging operations.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximate percent of proposal in permanent road running surface (includes gravel roads):*

Approximately 1% of the proposal will be covered with impervious surfaces (gravel roads).

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
(Include protection measures for minimizing compaction or rutting.)

Surface runoff will be collected in well-defined ditches that are clear of debris and fully functional. Runoff will flow into culverts and be discharged onto the forest floor for filtration. Landings will be positioned in locations to help divert felling and yarding away from flowing waters. Yarding may be suspended when soil rutting exceeds four inches. Any and/or all operation(s) of this sale may be temporarily suspended when there is the possibility of sediment being delivered to any flowing water tributary. No ground based equipment operation will be permitted from September 30 to May 1 unless authorized by the Contract Administrator. Equipment use will be limited within 30 feet of type 5 streams in accordance with Forest Practice rules. See B.1.d.5.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust *from truck traffic, rock mining, crushing or hauling*, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.

Minimal amounts of engine exhaust from logging equipment, log trucks, and automobile exhaust will be emitted as a result of this proposal. If landing slash is burned, smoke will be emitted into the air.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Landing slash, if burned, will be burned in accordance with the State's Smoke Management Program. A burn permit will be obtained before burning occurs.

3. Water

a. Surface:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. *(See timber sale map available at DNR region office, or forest practice application base maps.)*

There are five type 3, one type 4, and seven type 5 waters associated with the proposal. One type three stream is Seven Creek. The type 4, six of the type 5, and three of the type 3 streams flow into Seven Creek. The other type 3 and type 5 streams flow into Eight Creek.

a) Downstream water bodies:

Seven and Eight Creek flow to Elk Creek, which flows to the Chehalis River.

b) Complete the following riparian & wetland management zone table:

Wetland, Stream, Lake, Pond, or Saltwater Name (if any)	Water Type	Number (how many?)	Avg RMZ/WMZ Width in Feet (per side for streams)
Streams	3	3(Unit1)	170 feet
Streams	3	2(Unit 2)	180 feet
Streams	5	7	N/A
Streams	4	1	100 feet

c) List RMZ/WMZ protection measures including silvicultural prescriptions, road-related RMZ/WMZ protection measures, and wind buffers.

RMZs for this proposal have been designed in accordance with the Department of Natural Resources' current procedures. RMZ site index buffers averaging 170 feet wide were placed along three type 3 streams in unit 1, and RMZs averaging 180 feet wide were placed along 2 type 3 streams in unit 2. All buffers were measured from the 100-year flood plain. A 100 foot minimum RMZ was placed along the type 4 stream measured from the 100-year flood plain. The RMZs are comprised primarily of Douglas-fir, western hemlock, western redcedar and red alder. A 30-foot wide equipment limitation zone will protect seven type 5 streams associated with the proposal. Where feasible, leave trees were located along type 5 streams. When cable yarding over type 5 streams, full suspension is required.

2) Will the project require any work over, in, or adjacent to (within 200 feet) to the described waters? If yes, please describe and attach available plans.
☐ *No* ☒ *Yes (See RMZ/WMZ table above and timber sale map available at DNR region office.)*
Description (include culverts):

Logging activities will occur 170 feet from the three type 3 streams in unit 1, 180 feet from the two type 3 streams in unit 2, and 100 feet from the one type 4 stream. Yarding may also occur over seven type 5 streams, but an Equipment Limitation Zone will be utilized to maintain stream function, bank integrity, and decrease possible sediment delivery. When cable yarding over type 5 streams, full suspension will be required.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. *(Include diversions for fish-passage culvert installation.)*
☒*No* ☐*Yes, description:*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
☒*No* ☐*Yes, describe location:*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
☐*No* ☒*Yes, type and volume:*

Minor amounts of logging slash may enter up to seven type 5 streams.

7) *Does the sub-basin contain soils or terrain susceptible to surface erosion and/or mass wasting?* **Yes**
What is the potential for eroded material to enter surface water? **The potential for eroded material to enter surface water due to road and harvest activities is low because of erosion control measures included in the proposal (see B.1.h).**

Elk Creek WAU
High Erosion Potential: 25%
High Mass Wasting Potential: 12%

***Soil data not available for each sub-basin. Information gathered from the Soils, Erosion, Mass Wasting Report for WAUs.**

8) *Is there evidence of changes to the channels in the WAU and sub-basin(s) due to surface erosion or mass wasting (accelerated aggradations, erosion, decrease in large organic debris (LOD), change in channel dimensions)?*
☐*No* ☒*Yes, describe changes and possible causes:*

There are indications of channel changes such as increased LOD, erosion, and changes in channel dimensions following unusually high precipitation events. Where the stream banks erode or headwalls fail, the channels may change dimension and/or direction over time.

9) *Could this proposal affect water quality based on the answers to the questions 1-8 above?*
☐*No* ☒*Yes, explain:*

This proposal is expected to have minimal to no effect on water quality. Items listed in B.1.h and B.3.d will minimize potential sediment delivery to streams. These mitigation elements should limit affects on water quality in relation to the items of concern listed in questions 1-8.

10) *What are the approximate road miles per square mile in the WAU and sub-basin(s)?*

The Elk Creek WAU averages 5.3 miles of road per square mile. Road information is not available on the subbasin level.

Are you aware of areas where forest roads or road ditches intercept sub-surface flow and deliver surface water to streams, rather than back to the forest floor?
☒*No* ☐*Yes, describe:*

11) *Is the proposal within a significant rain-on-snow (ROS) zone? If not,* ***STOP HERE*** *and go to question B-3-a-13 below. Use the WAU or sub-basin(s) for the ROS percentage questions below.*
☐*No* ☒*Yes, approximate percent of WAU in significant ROS zone.* **7%**
Approximate percent of sub-basin(s): **Sub-basin 13: 9.79%**
Sub-basin 15: 36.87%

12) *If the proposal is within the significant ROS zone, what is the approximate percentage of the WAU or sub-basin(s) within the significant ROS zone (all ownerships) that is (are) rated as hydrologically mature?*

Sub-basin 13: 100%
Sub-basin 15: 67.24%

13) *Is there evidence of changes to channels associated with peak flows in the WAU or sub-basin(s)?*
☐*No* ☒*Yes, describe observations:*

Eroded material enters the streams during moderate to high flows, which is observed as a noticeable increase in stream turbidity. This increased turbidity can be observed in streams originating in stands with no forest management activity. The potential for eroded material to enter surface water, based on this proposal, is low due to the erosion control measures that will be included in the proposal. See B.3.a.8 & B.1.h.

14) *Based on your answers to questions B-3-a-10 through B-3-a-13 above, describe whether and how this proposal, in combination with other past, current, or reasonably foreseeable proposals in the WAU and sub-basin(s), may contribute to a peak flow impact.*

This proposal may slightly change the timing, duration, and amount of peak flow event. Flow rates may increase slightly during low and high flow periods due to decreased transpiration and interception.

15) *Is there water resource (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or downslope of the proposed activity that could be affected by changes in surface water amounts, quality, or movements as a result of this proposal?*
☒*No* ☐*Yes, possible impacts:*

16) *Based on your answers to questions B-3-a-10 through B-3-a-15 above, note any protection measures addressing possible peak flow/flooding impacts.*

The following measures will address possible peak flow/flooding impacts:

1. **Limiting future harvest unit sizes to less than 100 acres according to the 2006 Policy for Sustainable Forests, and following Forest Practices rules regarding green-up policies before harvesting adjacent DNR stands.**
2. **Designating RMZs ranging from 170-180 feet wide along five type 3 streams, and 100 feet wide along one type 4 stream.**
3. **Retaining 8 leave trees per acre throughout the proposal.**

b. Ground *Water*:

1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Insignificant amounts of oil and other lubricants could be discharged inadvertently as a result of heavy equipment use. All spills are required to be contained and cleaned-up.

3) *Is there a water resource use (public, domestic, agricultural, hatchery, etc.), or area of slope instability, downstream or down slope of the proposed activity that could be affected by changes in groundwater amounts, timing, or movements as a result this proposal?*
☒*No* ☐*Yes, describe:*

a) Note protection measures, if any.

c. Water Runoff (including storm water):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Storm water runoff will be collected by road ditches and diverted through cross drain culverts onto the forest floor. Culverts will be placed at locations to minimize the amount of water runoff directly entering existing stream channels.

2) Could waste materials enter ground or surface waters? If so, generally describe. **No.**

a) Note protection measures, if any.

Equipment use will be limited along streams in accordance with Forest Practice rules. No lubricants will be disposed of onsite. See 3.a.1.c.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

(See surface water, ground water, and water runoff sections above, questions B-3-a-1-c, B-3-a-16, and B-3-c-2-a.) Control measures have been integrated into the design of this proposal to reduce impacts to any waters.

4. Plants

a. Check or circle types of vegetation found on the site:

☒deciduous tree: ☒alder, ☒maple, ☐aspen, ☐*cottonwood,* ☐*western larch,* ☐*birch,* ☐other:
☒evergreen tree: ☒*Douglas fir,* ☒*grand fir,* ☐*Pacific silver fir,* ☐*ponderosa pine,* ☐*lodgepole pine,* ☒*western hemlock,* ☐*mountain hemlock,* ☐*Englemann spruce,* ☒*Sitka spruce,* ☒*red cedar,* ☐*yellow cedar,* ☐other:
☒shrubs: ☒*huckleberry,* ☒*salmonberry,* ☒*salal,* ☒*other:* **vine maple, Oregon grape, sword fern**
☒grass
☐pasture
☐crop or grain
☒wet soil plants: ☐cattail, ☐buttercup, ☐bullrush, ☒skunk cabbage, ☒*devil's club,* ☐other:
☐water plants: ☐water lily, ☐eelgrass, ☐milfoil, ☐other:
☐other types of vegetation:
☐*plant communities of concern:*

b. What kind and amount of vegetation will be removed or altered? *(See answers to questions A-11-a, A-11-b, B-3-a-1-b and B-3-a-1-c. The following sub-questions merely supplement those answers.)*

Approximately 6,000 MBF of Douglas-fir, western hemlock, western red cedar and red alder will be removed from the proposal area. Timber age is approximately 75 years old.

1) *Describe the species, age, and structural diversity of the timber types immediately adjacent to the removal area. (See landscape/WAU and adjacency maps on the DNR website at: http://www.dnr.wa.gov under "SEPA Center.")*

Unit 1: Adjacent stand to the northwest is a nine year old Douglas fir plantation. To the northeast and east is a mature stand of mixed conifer. To the southeast is an nine year old Douglas fir plantation. To the southwest is a 70 year old stand of mixed conifer and a nine year old Douglas fir plantation. To the direct south is a mature stand of mixed conifer. To the west is a 76 year old stand of mixed conifer.

Unit 2: Adjacent stand to the northeast is a 54 year old stand of mixed conifer. To the north central and northwest of the unit is an eleven year old Douglas fir plantation. To the west is an eleven year old Douglas fir plantation. To the southwest is a thirteen year old Douglas fir plantation. To the south is a 75 year old stand of mixed conifer. To the southeast is a 63 year old stand of mixed conifer. To the east is a 54 year old stand of mixed conifer.

2) *Retention tree plan:*

Unit one had a total of 587 trees marked for retention. These trees were marked as clumps ranging from 25 to 50 trees, and as scattered trees and small clumps (10-15 trees). Leave trees were selected to represent species diversity, decadence, and a range of diameters, however the largest trees on the site were targeted for retention. Clumps are intended to maintain islands of undisturbed forest understory, and to protect water resources not captured by RMZs.

Unit two had a total of 464 trees marked for retention. Both clumps and scattered trees were marked on this unit also, and selection parameters are similar to those mentioned for unit one above. In addition, there were several structurally unique trees identified that fit the description for marbled murrelet habitat trees that were marked for retention.

c. List threatened or endangered *plant* species known to be on or near the site.

None Found in Database Search.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Douglas-fir and western redcedar will be planted within two years after harvest. RMZs and clumped retention trees will preserve areas of existing vegetation. Though disturbed, native plants such as salal, ferns, and Oregon grape will remain on site and will later thrive within the plantation.

5. Animal

a. Circle or check any birds animals *or unique habitats* which have been observed on or near the site or are known to be on or near the site:

birds: ☒hawk, ☐heron, ☒eagle, ☒songbirds, ☐*pigeon*, ☒other: wild turkey
mammals: ☒deer, ☒bear, ☒elk, ☐beaver, ☐other:
fish: ☐bass, ☐salmon, ☒trout, ☐herring, ☐shellfish, ☐other:
unique habitats: ☐*talus slopes,* ☐*caves,* ☐*cliffs,* ☐*oak woodlands,* ☐*balds,* ☐*mineral springs*

b. List any threatened or endangered species known to be on or near the site *(include federal- and state-listed species)*

Bull Trout: This sale is located within an area of potential bull trout habitat. This proposal's protection of fish bearing streams should protect any potential bull trout habitat present.

Spotted Owl: Unit two is located in status 1 and status 3 owl circles. Unit one is located in a status 3 owl circle. Both units are located in areas designated as "non-habitat."

Marbled Murrelet: Reclassified habitat is adjacent to unit 2. This area was surveyed in 2000 and 2001. There were no marbled murrelet detections.

c. Is the site part of a migration route? If so, explain.
☒*Pacific flyway* ☐*Other migration route:* *Explain if any boxes checked:*

This proposal is located in the Columbia River flyway, which is part of the Pacific Northwest forests. The area for this proposal is not generally the type of area used for resting or feeding by migratory waterfowl. Many Neo-tropical birds are closely associated with riparian areas, cliffs, snags and structurally unique trees. Riparian areas and special habitats are protected through implementation of DNR's Habitat Conservation Plan.

d. Proposed measures to preserve or enhance wildlife, if any:

Retention trees along flowing waters maintain water quality by providing shade, bank stability, and wildlife habitat. Retention trees also serve as perches and nest sites and will serve as ecological niches for wildlife. Larger diameter trees that have large limbs, open crowns, and broken tops will be left to preserve current habitat needs and provide future habitat opportunities for many species. These trees will become snags and retention trees in future stands. Species diversity was also considered when selecting retention trees to preserve the overall biodiversity of the unit. The following activities have been incorporated into this proposal to enhance habitat opportunities:

- **Riparian Management Zones averaging 170 and 180 feet wide are designated along five type 3 streams.**
- **Minimum Riparian Management Zones 100 feet wide is designated along one type 4 stream.**
- **RMZs in the proposal will help maintain water quality; provide migratory corridors for wildlife; and maintain habitat for fish, reptiles, and other riparian obligate species.**

1) *Note existing or proposed protection measures, if any, for the complete proposal described in question A-11.*
Species /Habitat: **riparian dependent species** Protection Measures: **RMZs along type 3 &4 streams.**
Species /Habitat: **upland dependent species** Protection Measures: **A minimum of eight leave trees per acre, clumped and scattered throughout the proposal.**

6. **Energy and Natural Resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Does not apply.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Does not apply.

7. **Environmental Health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Minimal hazards incidental to operating heavy machinery such as the risk of fire or small amounts of oil and other lubricants accidentally discharged as a result of heavy equipment use.

1) Describe special emergency services that might be required.

There are not any special emergency services required at this time. Pump trucks and/or pump trailers will be required on site during fire season. In the event of a lubricant spill, the Purchaser shall contact the DNR and the Department of Ecology and begin immediate containment and clean up of the spill.

2) Proposed measures to reduce or control environmental health hazards, if any:

No oil or lubricants will be disposed of on site. The cessation of operations may occur during periods of time when the risk of fire increases. Fire tools and equipment will be kept on site during fire season.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

None.

2) What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from this site.

Small levels of noise will be produced by equipment during the logging operations. The hours of operation will be approximately 0600 hours to 1700 hours. Noise will not be long-term.

3) Proposed measures to reduce or control noise impacts, if any:

The use of unmuffled jake brakes on trucks will not be permitted in conjunction with this proposal.

8. **Land and Shoreline Use**

a. What is the current use of the site and adjacent properties? *(Site includes the complete proposal, e.g. rock pits and access roads.)*

Timber production and forest management activities.

b. Has the site been used for agriculture? If so, describe. **No.**

c. Describe any structures on the site. **None.**

d. Will any structures be demolished? If so, what? **No.**

e. What is the current zoning classification of the site? **Forest Land.**

f. What is the current comprehensive plan designation of the site? **Forestry.**

g. If applicable, what is the current shoreline master program designation of the site? **N/A.**

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify. **No.**

i. Approximately how many people would reside or work in the completed project? **None.**

j. Approximately how many people would the completed project displace? **None.**

k. Proposed measures to avoid or reduce displacement impacts, if any: **N/A.**

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

This proposal has been designed in accordance with the Final HCP (September 1997), the Riparian Forest Restoration Strategy, Policy for Sustainable Forests and current Forest Practice regulations as they apply in conjunction with the HCP and are consistent with current land use classifications.

9. **Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. **None.**

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. **None.**

c. Proposed measures to reduce or control housing impacts, if any: **None.**

10. **Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principle exterior building material(s) proposed?

N/A.

b. What views in the immediate vicinity would be altered or obstructed? **Views from adjacent forest roads may be altered.**

1) *Is this proposal visible from a residential area, town, city, developed recreation site, or a scenic vista?*
☒*No* ☐*Yes, viewing location:*

2) *Is this proposal visible from a major transportation or designated scenic corridor (county road, state or interstate highway, US route, river, or Columbia Gorge SMA)?*
☒*No* ☐*Yes, scenic corridor name:*

3) *How will this proposal affect any views described in 1) or 2) above?* **NA**

c. Proposed measures to reduce or control aesthetic impacts, if any:

Although there are no anticipated aesthetic impacts associated with this proposal, the retention tree plan discussed in 4.B.2 will mitigate the visual effects of the regeneration harvest.

11. **Light and Glare**

a. What type of light or glare will the proposal produce? What time of day would it mainly occur? **None.**

b. Could light or glare from the finished project be a safety hazard or interfere with views? **No.**

c. What existing off-site sources of light or glare may affect your proposal? **None.**

d. Proposed measures to reduce or control light and glare impacts, if any: **None.**

12. **Recreation**

a. What designated and informal recreational opportunities are in the immediate vicinity?

Informal recreation includes hunting, berry picking and other informal recreation activities.

b. Would the proposed project displace any existing recreational uses? If so, describe:

Recreation may be temporarily displaced during road building and harvest activities. The Chehalis and Willapa Trail intersects the corner of section 24, however, forestry activities will not affect this site.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None.

13. **Historic and Cultural Preservation**

a. Are there any places or objects listed on, or proposed for national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

This proposal was screened for potential archaeological sites or artifacts using the P&T special concerns report, and on-site during the pre-sales phase, where no concerns were identified.

b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.

None found

c. Proposed measures to reduce or control impacts, if any:
(Include all meetings or consultations with tribes, archaeologists, anthropologists or other authorities.)

In the event that any unknown archaeological resources are encountered, ground disturbing activities would be halted and our Agency's Archaeologist will be contacted to survey the site and develop a Site Protection Plan.

14. **Transportation**

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

Forest roads lead to Elk Creek Road, which leads to Doty and State Route 6.

1) *Is it likely that this proposal will contribute to an existing safety, noise, dust, maintenance, or other transportation impact problem(s)?*

No.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

No.

c. How many parking spaces would the completed project have? How many would the project eliminate?

Does not apply.

d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private). **See A.11.C**

1) *How does this proposal impact the overall transportation system/circulation in the surrounding area, if at all?*

This proposal will increase the traffic temporarily, by up to 20 vehicle and log truck round trips per day, but should not affect the overall transportation system in the area.

e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.

Up to 20 round trips per day could occur during road building and logging operations. After harvest activities are complete, occasional vehicular trips to the site will be generated for future forest management purposes.

g. Proposed measures to reduce or control transportation impacts, if any:

None.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.

No.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Not applicable.

C. **SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision. Product Sales Forester 6/12/09

Completed by: for Andrew Geissler Forester 1 Date: 4/2/09
Title

Reviewed by: Robert W. Johnson PRODUCT SALES MANAGER Date: 6-16-09

Comments: _____